

§ 236.1039 Operations and Maintenance Manual.

(a) The railroad shall catalog and maintain all documents as specified in the PTCDP and PTCSP for the installation, maintenance, repair, modification, inspection, and testing of the PTC system and have them in one Operations and Maintenance Manual, readily available to persons required to perform such tasks and for inspection by FRA and FRA-certified state inspectors.

(b) Plans required for proper maintenance, repair, inspection, and testing of safety-critical PTC systems must be adequate in detail and must be made available for inspection by FRA and FRA-certified state inspectors where such PTC systems are deployed or maintained. They must identify all software versions, revisions, and revision dates. Plans must be legible and correct.

(c) Hardware, software, and firmware revisions must be documented in the Operations and Maintenance Manual according to the railroad's configuration management control plan and any additional configuration/revision control measures specified in the PTCDP and PTCSP.

(d) Safety-critical components, including spare equipment, must be positively identified, handled, replaced, and repaired in accordance with the procedures specified in the PTCDP and PTCSP.

(e) Each railroad shall designate in its Operations and Maintenance Manual an appropriate railroad officer responsible for issues relating to scheduled interruptions of service contemplated by § 236.1029.

§ 236.1041 Training and qualification program, general.

(a) *Training program for PTC personnel.* Employers shall establish and implement training and qualification programs for PTC systems subject to this subpart. These programs must meet the minimum requirements set forth in the PTCDP and PTCSP in §§ 236.1039 through 236.1045, as appropriate, for the following personnel:

(1) Persons whose duties include installing, maintaining, repairing, modifying, inspecting, and testing safety-

critical elements of the railroad's PTC systems, including central office, wayside, or onboard subsystems;

(2) Persons who dispatch train operations (issue or communicate any mandatory directive that is executed or enforced, or is intended to be executed or enforced, by a train control system subject to this subpart);

(3) Persons who operate trains or serve as a train or engine crew member subject to instruction and testing under part 217 of this chapter, on a train operating in territory where a train control system subject to this subpart is in use;

(4) Roadway workers whose duties require them to know and understand how a train control system affects their safety and how to avoid interfering with its proper functioning; and

(5) The direct supervisors of persons listed in paragraphs (a)(1) through (a)(4) of this section.

(b) *Competencies.* The employer's program must provide training for persons who perform the functions described in paragraph (a) of this section to ensure that they have the necessary knowledge and skills to effectively complete their duties related to operation and maintenance of the PTC system.

§ 236.1043 Task analysis and basic requirements.

(a) *Training structure and delivery.* As part of the program required by § 236.1041, the employer shall, at a minimum:

(1) Identify the specific goals of the training program with regard to the target population (craft, experience level, scope of work, etc.), task(s), and desired success rate;

(2) Based on a formal task analysis, identify the installation, maintenance, repair, modification, inspection, testing, and operating tasks that must be performed on a railroad's PTC systems. This includes the development of failure scenarios and the actions expected under such scenarios;

(3) Develop written procedures for the performance of the tasks identified;

(4) Identify the additional knowledge, skills, and abilities above those required for basic job performance necessary to perform each task;